

TWIN CITY ATARI INTEREST GROUP NEWSLETTER

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JANUARY MEETING NOTES
BY MD

The passing of two dealerships was noted, The Code Room and Computer Castle are no more. However the repair person who was at Computer Castle is now working out of a new shop in conjunction with Pan-Logic. They have a new name, so check with Pan-Logic at 780-5205 for details. Also a service center for ATARI called ENTRONIX is offering TAIG members a 20% parts discounts in conjunction with labor on repairs or a 10% discount on parts alone. The # is 537-2121, the address is 5401 Boone Av, N. Software distribution will take place before or after meetings. This refers to both the club library software and any dealer sales. The TAIG bulletin board is several steps closer to reality as we have begged, borrowed, but not stolen most of the equipment needed. The question of how it should be funded will be determined by vote at the next meeting. In relation to the bulletin board and its use, a group purchase discount is being offered by 1) Prairie Microsystems, 941-4504 on the Anchor and the Hayes and 2) Wizards Work, 545-2136 on the Microconnect direct connect (no interface required). If you did not sign the signup sheet but are interested, call the above numbers to see if you can get in on the group purchase. The + of direct connect is of course that you don't have to shell out for an interface (rumor ATARI is coming out with a direct connect printer), the -, check to see what kind of software you need to make it go. (Terminal programs are set up to use an interface port)

The following is the conclusion to my article last month (MORE ABOUT FILES). Had some file transfer problems -MD.

....That leaves us with the first two bytes being something other than 0 or 255. This involves several possibilities. It may be a DAT (data) file but if the first byte is 155 it could be a LISTed MICROSOFT BASIC, or if you have any old DOS I files hanging around that were OBJECT code the bytes would be 134 (or 132) and 9. Or they may be LISTed ATARI BASIC or LISTed BASIC A+. If it is a LISTed file the data will be ASCII code so you should see very few numbers over 155, and a person familiar with ASCII code can tell fairly well by the first 6 bytes that the data represents the first line number in a listed program. (ASCII codes for numbers are all between 48 and 57) Obviously a bit of interpretation is required to tell a LISTED program from plain old data, but it is fairly easy to do with a little practice.

Which brings us to the point of properly using the file extenders in the first place. Had our disk had properly named file extenders on it we would never have had to put on our detective hats and spent our time peeking around in the files just to see what they were.

REVIEW: THE ODESTA THREE

BY TRB

Well, they finally arrived. Odesta has just released three excellent playing 'board' games for the ATARI. CHESS, CHECKERS, and ODIN are all extremely well documented, utilize a friendly user interface, and play a very mean game (except at the lower levels). All of the games follow U.S. tournament rules and each is entirely capable of winning many of the tournaments I have played in. One unique feature of the games is that the computer thinks about its' next move while you are thinking about your move (thats' only fair, right?) Other features the games have in common is the ability to list all moves made so far, replay the previous game, back up a move or moves, have the computer recommend your move, play the entire game using only a paddle and button (much easier than I thought it would be), have the computer play itself, swap sides with the computer, change skill levels while game is in progress, and even have humans play both sides. Some of the additional features in CHESS that I liked include the built in set of 40 pre-played games and mate-in-x number of moves, the computers ability to reference an 'opening moves library', the attack and defend training aides for beginners, and the ability to set up the board to any initial configuration. Checkers had this latter ability as well as game evaluation, music, program parameter modification (change the way the computer evaluates its moves), and a super fast movie mode (quick replay). ODIN beat me at level 3 (16 is tournament level), so I haven't played it too much yet. The only feature in addition to those above is that ODIN will rate each of your available moves and show them to you if you need help. Oh yes, CHECKERS tells you when it knows that it will win in a certain number of moves...frustrating.

After playing these games, I have to say that it is time to throw away all of the other chess, checkers, and othello/reversi programs that you have on your ATARI and get these ODESTA programs. I haven't seen anything comparable to them on the market yet. Odesta also has employed a new copy protection mechanism for their disks, so most of you Percom owners should be able to run the programs without any trouble. A tiny bird tells me that the disks are formatted with 19 sectors per track, making the disks a little more difficult to back up since the normal 810 disk drive can format only 18 sectors per track. I hope this copy protection is more reliable (for us users) than methods that employ timing and noisy checks. I hope Odesta didn't spend too much on their copy protection scheme, however, because even 19 sectors per track is easy back up if you are willing to spend an hour or two at it (and I think most people with children around are-ever have your kids see if your diskettes will stick to the static on the front of your TV set?)

Sorry about not having a listing of the last disk of the month for you in the last newsletter. I really didn't have time what with going to Vegas and the deadline so far ahead of the meeting. For those of you who didn't attend the meeting and would like a listing of the disk here it is.

Vultures	stop all the birds
Castle Hexagon	a cute adventure
Slots	a slot machine program
Slots2	another slot machine
Rpmtest	a rpm program for disk drive
Lightning Robot	a berzerk style game
Balloons	shoot down the balloons
Xmodem	Public domain modem program

I know that it doesn't seem like much but I think this disk was probably the best I have put together. This is disk #15 and was for the month of Jan. 1983. The cassette for the month had all but lightning robot and rpmtest. I really don't think you will miss timing how fast your disk drive is going.

Now I suppose you want a listing of what I am going to put on this month's disk right? I wish I knew what I am going to put on it but I haven't had time to decide. I will put on a program called Tinytext. It is a mini word processor written by Stan Ockers. The editor of this newsletter hopes that this will inspire more of you to submit articles. If you do, you can use this program to type it in. As for the rest of the disk I haven't decided at writing time. I will try to get back on track by the next newsletter.

I mentioned that I will be getting a new library assistant. His name is Jim Schulz. Now any one who wants programs can send for them from him. His address is Jim Schulz, 3264 Welcome Ave., Crystal, MN 55422. You can also send program requests to Wayne Vassel, 12114 Crooked Lake Blvd., Coon Rapids, MN 55433. If you send them to me, I will just forward them to one of these two fellows, then it will take longer so I recommend sending to them.

The following are the guidelines for obtaining programs from our library. You can obtain programs by buying a disk or cassette of the month at our meetings or by ordering them from one of the assistants. We do make past issues of the disks but do not make cassettes again. Or you can order programs directly from the librarians. If you do this, you must supply the media (disk or cassette), a list of programs wanted, and a dollar if you want them mailed back to you as soon as possible. We do have a standing limit of 10 programs for each month on cassettes. The last method we just started at the last meeting. We will have a computer available with all the library programs sitting nearby. If you can gain access to the machine you can make copies of the programs for yourself. If you don't know how to use a disk drive and are having problems please ask someone for help before you screw up the disk.

The library has also made a change in the selling times for disks and cassettes at the meetings. It has been decided that we will sell them before and after meetings. This is to accommodate those who have to leave early. This has made our current disk of the month sell out very early so even if I make more they will probably be gone quickly. I am making extras of last month's for those of you who couldn't get one because it sold out fast.

If you would like a listing of the library, write to Phil Seifert (that's me), 48 Kelley Road, Chaska, MN 55318.

I promise I will have the listing for next month's disk in the next column. I will see you at the meeting.

FROM THE EDITOR =====

Since we got a lot of new members recently, I have decided to republish the following instructions on how to submit articles to TAIG.

Effective Oct. 5, a new method of submitting articles to the TAIG newsletter is available to those of you owning modems and an upload/terminal program. By dialing up a local computer (541-2175) and signing on with the username of TAIG, you can upload any ASCII file (line oriented with carriage returns at the end of each line) from your ATARI. Follow the following procedure exactly to upload files.

- 1) (dial up the computer)
- 2) press return to obtain the username prompt
- 3) type TAIG and then press RETURN
- 4) type SET TERM/PASSALL then press RETURN
- 5) type CRE filename.ini then press RETURN (Pick any filename; plus your initials)
- 6) Now start the UPLOAD from your ATARI.
- 7) when the UPLOAD is done press the CTRL and Z keys to exit the file
- 8) now type LO to LOG off the system
- 9) finally, hang up the phone.

After you transfer the file (and before you log off), you can type out the file to make sure it is correct by doing a TYPE filename.ini. You can also type DIR to see what other files are on the TAIG directory. If you don't have a modem, just supply me with a text file on magnetic media (disk or tape) at the meeting (I do return the media). (Owners of TEXT WIZARD, please print the article out to a DISK file before you give me the disk. Also, no margins need be set.)

DISK ARCHIVING by TRB

Just time for a short retraction this month. I found out that you can have duplicate sectors on a disk without having any bad sectors anywhere on the disk. This is accomplished by having 19 sectors per track (re the ODESTA software), and the only way to back something like this up is to find where the duplicates are, place the doubles somewhere else on the destination disk, and then write your own loader to check whether it is supposed to load one of the doubles or a standard sector. This sounds complicated, but only takes about an hour if you have a good assembler like MAC65 or Synassembler and a good disk editor.

LIGHT PEN PROJECT

At the last meeting there was a demo of a light pen which gave good verticle values but lacked any horizontal reliability. A class was offered to build this "verticle light pen" for a cost of \$5.00, and about ten people signed up. There were a number of others who expressed an interest if the horizontal values could be added. Here comes the proverbial good news and bad news. The good news is the horizontal values have been "engineered" into the pen, the bad news is the cost of the class will go from \$5 to \$13. Actually that's not such bad news at all considering what a light pen costs from a manufacturer. (Those of you who saw the light pen in the last Creative Computing and wondered about building it, don't. It works worse than the demo pen.) There will be a "limited number of parts" for the class so if you want to participate call for an appointment. Those who signed up will be given first chance to reserve a place in the class. Call Mike Doleman- 861-1893. Get the details of what you need to bring (besides \$13) when you call.

CHILDREN WILL PLAY by Phil Seifert

Some of you may have missed my column's title last month. So, I went back into the adventure I was working on and found it to bring it back out. Here it is.

Children Will Play
by Phil Seifert

See, he doesn't look like he was damaged down there.

Getting to more important things, like what new games I got recently. One of the latest is Marauder from Sierra On-Line. This is an average space shoot-em-up. There is a little bit of a twist. You are the invading ship. There is also another scenario. You can fight in the city you have just landed in. This part reminds me a little of Bezerk. I feel this game is okay if you want another shoot-em-up game. It retails for \$35.00 and requires 32k on a disk.

I should have, by the next meeting, bought a copy of Odesta's Chess program. This is the best chess program I have seen (I saw it on an Apple first. Heaven forbid!), it comes in really professional packaging. The instruction manual is very thorough and they include some famous end games for you to work with. Now I really don't know why I want this program so bad except for the fact it will allow you to save your games. In playing my Computer Chess cartridge from Atari I had to sit there to the end while I got my block knocked off. If I remember, this program was written by a couple of professors at Northwestern University. They will have two other programs soon. They are Checkers and Odin. Odin is an othello game. The Chess program retails for \$70.00 while the other two sell for \$50.00, but I do like their packaging.

For those of you who missed the super bowl attending our meeting I have a question for you. What did you think of Miner 2049er? If you liked this program then I think you might like a new program coming out called Crisis Mountain. It is from Synergetic Software. From what I heard about the Apple version (why do they always do it on an apple first?) it is a fairly decent game. This nine level game will require 48k and a disk drive. I am not sure what the price is at this time.

Quick, how many pinball games are there for Atari computers? Three right? Wrong. Besides Raster Blaster, David's Midnight Mission, and AT-PBI Night Mission, there is Bulldog Pinball from Hayden Software. This program is 16k and runs on a cassette. It really wasn't too bad but I think I am spoiled by all the good games I have. The only redeeming feature I think is that it does come on cassette so all those frustrated pinball freaks with 16k 400s can play something. But I caution you, ask to see a demo of it first. It retails for \$30.00.

You know, with all the title's I mentioned in the last newsletter, I thought I wouldn't have anything to write about. But wouldn't you know, there is always a new title coming out all the time. One such program is Cosmic Balance from SSI. This is their sequel to Warp Factor. It reminds me a little of Invasion Orion from Automated Simulations. You design your ships and do battle against whatever is out there. Wargamers might like this one.

At one of our meetings a while back, we had a demo of a program called Creeper. It was an adventure game with 8 characters. The author has informed me that a company called Silicon Valley is marketing this program for them. It is not a block buster program but some adventurers will like it. Creeper uses graphics that vaguely reminds me of the Epyx style. It will come with a 35 page manual explaining the scenario and the author has told me he will write a more advanced version of the game. It will run on 16k and I know they are making disks. I don't know about cassettes though.

Speaking of Epyx, I have another adventure from them called Dragon's Eye. This one is not in the mold of Temple of Apshai. It retails for \$30.00 and comes on disk right now. I believe a lot of people will like this one. I also obtained Hellfire Warrior from the same company. This one is in the mold of Temple of Apshai. In fact, it is the sequel to the popular adventure. If you like Temple then go out and buy this one. Hellfire Warrior DOES NOT require Temple of Apshai as it is not some extra scenarios for it.

I really don't like doing this but I feel I must warn you. I saw a copy of Tutti Frutti from Adventure International and wouldn't wish this one on anyone. After they released Preppie and Sea Dragon, I thought they would continue putting out decent programs. But, a little greed goes a long way. Oh, I mentioned Sea Dragon up above. This program is a translation from the Apple version (another one?). It was done by Russ Wetmore of Preppie fame. It seems to me to be a submarine version of Caverns of Mars with the scrolling done horizontally. A lot of people may like this one but then again a lot of people may be frustrated by this program too. I like it. Adventure International is putting out a few more titles. They are Bug Off, Stratos, and Stone of Sisyphus. If you have been a long time reader of my column, you may recognize that Stone of Sisyphus is the program that I waited so long to get from them directly by mail order and gave up. Well, it looks like they have finally completed it now and even added graphics to it. They also raised the price to \$40.00. This is the same price they are charging for their new versions of Scott Adam's Adventures 1-12. I have seen number one and I think they should lower their price till they get rid of the flicking colors. The S.A.G.A's are not any different in play from the original series. If you like getting eyestrain then go out and buy S.A.G.A # 1.

As part of my slowly building adventure special interest group I have available for club members a map of all the rooms in Shamus from Synapse Software. Most of the work was done by Bill Nordstrom and I only completed the last 17 rooms of the map. I will not tell you how I did it as that was told at the Jan. 2 meeting. It pays to come to our meetings. These maps will sell for \$1.00 at the meetings and they sell for \$1.50 at Wizard's Work at any other time. Next month I should have a map of Wizard and the Princess. It is being drawn up by Steve Vassel. I should have a few other maps also, including one for Softporn Adventure. The charges for these maps is 25 cents a page. If you other adventurers out there would like to map any adventures you have completed please let me know. Or if you already have maps let me know. The only thing that can keep this thing going is your support.

Where is my Gamestar Starbowl Football? It was supposed to be out by now. But nooooo....not yet! I want this program. But then again, there is yet another football game coming out from Nexa Corporation. They call theirs Superbowl Football. This is what the ad says. Superbowl Football is a realistic football game. You can design your own plays and has thousands of defensive and offensive plays. This is the ultimate in football games. Now where have we heard something was the ultimate before? The program requires 48k, a disk drive, and joysticks. They haven't listed a price for this program but I would sure like to see it sometime.

In my last article I mentioned something about new joysticks I saw down at the CES in Las Vegas. Guess I have to tell you about them now. Obviously I visited the Wico display booth down there to see what new goodies were in store for my gaming pleasure. They had what they called the Power Grip Joystick. It has a molded handle that fits your hand very nicely. This one I might use for Star Raiders. What I found was very interesting is that they now have a three-way deluxe joystick. This creature comes with 3 different handles that you can interchange. One is the baseball bat we are used to. The second one is the afore mentioned power grip and the last I don't know what they call it. It was quite a shock to me that they are putting out these items; an analog joystick, an IBM track ball (hope it is better than the one for Atari), and a joystick for a Texas Instruments computer. They also have a keypad coming out for the Colecovision and Atari 5200 game system. I wonder if it is adaptable to the computers?

This next item is not exactly a joystick but I think some Asteroid players would like this. Questar is putting out a push button console. They call it Questar 1. It has a separate button for up, down, left, right and the fire button. I don't think it would improve my scores in Asteroids to much as I was never very good with the arcade version of the game. Questar 1 will sell for \$37.00.

The third new joystick I saw down there was from Electra Concepts. They call it the Triga Command. The unique feature of this is the trigger is located on the front side of the joystick itself. They claim it will reduce fatigue and improve your scores. It also allows you to use optional suction cups on the bottom to improve the stability of the thing. I don't know about this, it seems to me that if I get wild in a game I might break the joystick a lot easier. I recommend that you try any joystick first before you spend money on a fancy model.

The best joystick I saw was the Competition-Pro Joystick from Coin Controls Inc. It is really heavy duty and has two fire buttons, one on each side of the base for righties and lefties. They have two versions of this stick available. Externally, they are the same, but inside one uses the leaf switch system like Wico's and the other uses micro switches. I preferred the micro switches myself. The stick itself had a ball on top but it not as cumbersome as the red ball joystick from Wico. It comes with a 2 year unconditional warranty.

The last joystick I saw was not for our computer exactly, but I think it could be adapted. I saw this fancy stick on the Atari 2600 game system. It had 3 fire buttons and used two joystick ports. This monster was designed for CBS Software's Wings cartridge. This is what I wish I could use for Defender. No more reaching for the keyboard to get the smart bomb or hyperspace. By the way, the Wings program for the VCS was fantastic for that machine. I hope we can have that programmer start doing some stuff for a real computer.

Starting next month, since I really haven't been keeping track lately on the high scores, I would like to start over on all the high scores. I am, right now, hopelessly out of date. Please resubmit all your high scores on a sheet of paper and I would like to know what the circumstances were. For example, what level did you start at and things like that. I would prefer that everyone starts from the beginning instead of skipping levels.

That wraps it up for this month. I have a dog here who would like to play with me and has threatened to bite me if I don't. By the way, her favorite games are Dog Daze from APX and Doggies by Stan Ockers.

MINNESOTA MICRO FORTH BY TRB

Just a short note for now. Doug Gihl informs me that the next meeting will be held on the 2nd Wednesday of the month at Minnesota Federal in Northtown. Also, the Forth BBS is now off the air. Doesn't anyone want to write about Forth for this newsletter?

SOFTWARE/HARDWARE NOTES BY TRB

Things are looking better. The Basic Compiler is out at last. It looks pretty good, but requires that you do a little tweaking to some of your programs before compiling them. I increased the speed of a program called BLOCKADE that I typed in from COMPUTE by a factor of around 20 (had to put in a speed option to make it playable.) The program does appear to have a limit on the size of the program it can compile (about 100 sectors), but most programs should compile with no problems. If you have every wanted to speed up a program (and get rid of the BASIC cartridge requirement), then this program is for you. I also hear that Zaxxon might be shipped in time for a demo at this month's meeting. Strong rumor has it that the new 800's will be shipped without the BASIC cartridge starting in MARCH. Another rumor I hear from the other clubs is that the extra slots in the new 800's won't be wired up (including the right cartridge). I can't believe ATARI would stoop to that.

PROGRAMMER'S TOOL KIT by DALE PANTON

Did you ever wish that you could incorporate into your programs the fancy-looking menus and title displays that the more expensive programs use? Are you a fledgling programmer who has dismissed the thought, saying that you don't know anything about display lists and display list interrupts? Well, you can create some pretty impressive menus using just BASIC graphics modes 0, 1, and 2 and a decent software tool to help you along. The real trick to outstanding text displays is the proper choice of color and text size. This is part of the black magic of software design called "human factors engineering" or "user friendliness". One of the tools that I use for this purpose is called MENUHELP, and is included at the end of this article. MENUHELP provides the means for adjusting by joystick the colors in a sample graphics mode 1 menu and in a graphics mode 0 text display. It is useful for planning menus, and for the novice programmer, can provide techniques for controlling the screen editor. This particular program does not alter the standard display lists nor use display list interrupts. Remember that the ATARI computers have five color registers that determine the colors and luminances to be displayed (not including the player-missile color registers). These registers are shadowed at memory locations 708 through 712. In graphics 0 the color of the foreground or standard text box is controlled by color register 2. The luminance or brightness of the text is taken from the lower four bits of color register 1. The background or border around the standard text box has the color specified in color register 4. In graphics modes 1 and 2 there is a little more flexibility. In these modes, the colors of individual letters can be controlled by the type of characters printed to the screen. As an example, the following character types are controlled by the color registers indicated:

upper case	register 0
lower case	register 1
upper case inverse	register 2
lower case inverse	register 3
background spaces	register 4

All of the above types produce upper case letters on the screen, but in different colors. The register colors and luminances can be set either by POKING values into memory locations 708 through 712 or by using the BASIC SETCOLOR statement. The details of how to obtain lower case and graphics characters in several colors can be found in the ATARI BASIC Reference Manual on pages 54-56. So, type in the program, study it, and experiment with it. If you don't feel like typing it in, I'll try to give Phil a copy for the library, and you can get it from there. Once you have it running, you will find the following sequence of operation. The first display is a set of instructions outlining the options. Next, the graphics mode 1 sample menu is presented. In the text window at the bottom of the screen will appear the contents of the five color registers. The first number is the color number and the second is the luminance value. A large arrow will be positioned over one of the registers. Press the joystick to move this arrow to a desired register. At this point, a left or right movement of the joystick will alter the color value in the register and on the screen. An up or down movement of the stick will alter the luminance. Experiment with the wide variety of color combinations possible. By pressing the SELECT key, you can cycle through various menu formats. I have included the two mentioned above as subroutines starting at 600 and 700. You can install your own menu either by replacing mine or by including it after line 1000. Just make sure that the first line of your menu subroutine sets the values of CPOS, COFF, and SC as in the example menus. CPOS and COFF control the cursor position for displaying the register contents, which varies for the different graphics modes. SC indicates which menu subroutine is to be next in the sequence determined at line 140. You will notice that I have not included a graphics mode 2 menu example. I will leave that up to you. In the following months I hope to include in the newsletter more utilities that can be used as tools for serious programming. The criteria used for selection will probably be something like: 1) The program should be simple, yet useful. 2) The program should teach something, if it is studied and understood. 3) The program should contain techniques that can be used directly in other programs. I suppose instead of considering just programs, we could consider developing a subroutine library that the TAIG membership could use and contribute to. Let's see what happens.

PROGRAM LISTING:MENUHELP

(any special characters in print statements will show up as a space in the following listing, but the program will still function OK. -ED)

```

100 REM PROGRAM MENUHELP
110 REM BY DALE PANTON 1/83
120 DIM C(4),L(4),A$(6)
130 POKE 82,2:GOSUB 800:SC=1
140 ON SC GOSUB 600,700,1000
160 GOSUB 400:POKE CPOS,COFF:?: "COLR0 COLR1 COLR2 COLR3 COLR4"
170 FOR PC=0 TO 4:GOSUB 500:NEXT PC:PC=0
180 POKE CPOS,COFF:POKE CPOS+1,0:?: "
";:POKE 752,1
190 POKE CPOS+1,4+8*PC:?: "
";
195 FOR W=1 TO 50:NEXT W
199 REM -----DETECT CHANGES -----
200 IF STRIG(0)<>1 THEN PC=PC+1-(PC=4)*5:GOTO 180
210 S=STICK(0):IF S=15 THEN 270
220 IF S=11 THEN C(PC)=C(PC)-1+(C(PC)=0)*16
230 IF S=7 THEN C(PC)=C(PC)+1-(C(PC)=15)*16
240 IF S=13 THEN L(PC)=L(PC)-1+(L(PC)=0)*16
250 IF S=14 THEN L(PC)=L(PC)+1-(L(PC)=15)*16
260 GOSUB 500
270 IF PEEK(53279)<>5 THEN 200
280 GOTO 140
399 REM -----PEEK REGISTERS -----
400 FOR I=0 TO 4
410 C(I)=INT(PEEK(708+I)/16):L(I)=PEEK(708+I)-16*C(I)
420 NEXT I:RETURN
499 REM -----PRINT REG CONTENTS -----
500 A$="":A$(2)=STR$(C(PC)):IF C(PC)>9 THEN A$(1)=A$(2)
510 A$(3)="":A$(5)=STR$(L(PC)):IF L(PC)>9 THEN A$(4)=A$(5)
520 POKE CPOS,2+COFF:POKE CPOS+1,2+8*PC:?: A$;
530 POKE 708+PC,16*C(PC)+L(PC):FOR W=1 TO 50:NEXT W
540 RETURN
599 REM -----GRAPHICS 1 SCREEN -----
600 GRAPHICS 1:CPOS=656:COFF=0:SC=2
605 ? #6; " ";
610 ? #6; " ";
615 ? #6; " program menu"
620 ? #6; " ";:?: #6
625 ? #6; " 1. ITEM #1"
630 ? #6; " 2. ITEM #2"
635 ? #6; " 3. ITEM #3":? #6
640 ? #6; " ";:?: #6
645 ? #6; "press return for opt";
650 ? #6; "PRESS OPTION FOR OPT";
655 ? #6; "press SELECT for opt";
660 ? #6; "PRESS start FOR OPT";
665 ? #6; " ";
670 ? #6; " COPYRIGHT 1983"
675 ? #6; " ";
680 ? #6; " ";
685 RETURN
699 REM -----GRAPHICS 0 SCREEN -----
700 GRAPHICS 0:CPOS=84:COFF=20:SC=3
710 LIST 599,685
720 POKE 82,0:POSITION 0,19
730 ? "":FOR I=1 TO 40:?: " ";NEXT I
740 POKE 82,2:RETURN
799 REM -----INSTRUCTIONS -----
800 GRAPHICS 0:?: "}"
810 SETCOLOR 2,15,2:SETCOLOR 1,15,10:SETCOLOR 4,15,4
820 ? "
825 ? " | MENUHELP |"
830 ? "
835 ? :?: "THIS PROGRAM PERMITS CONTROL OF THE 5"
840 ? "COLOR REGISTERS BY JOYSTICK TO AID IN"
845 ? "THE DESIGN OF MENUS AND TEXT DISPLAYS"
850 ? "IN GRAPHICS MODES 0,1,2."
855 ? :?: "PRESS JOYBUTTON TO POSITION ARROW"
860 ? "OVER DESIRED COLOR REGISTER."
865 ? :?: "PRESSSELECTTO SWITCH BETWEEN GR.0"
870 ? "TEXT AND GR.1 MENU EXAMPLE."
875 ? :?: "THE JOYSTICK CAN BE USED TO ALTER THE"
880 ? "COLOR AND LUMINANCE OF THE SELECTED":? "REGISTER."
885 POKE 752,1:?: "PRESSSTARTTO FIND OUT HOW."
890 IF PEEK(53279)<>6 THEN 890
900 ? "":?: "THE JOYSTICK OPERATES AS FOLLOWS":?
905 ? " INCREASE "
910 ? " LUMINANCE "
915 ? "
"
920 ? "
925 ? " DECREASE

```

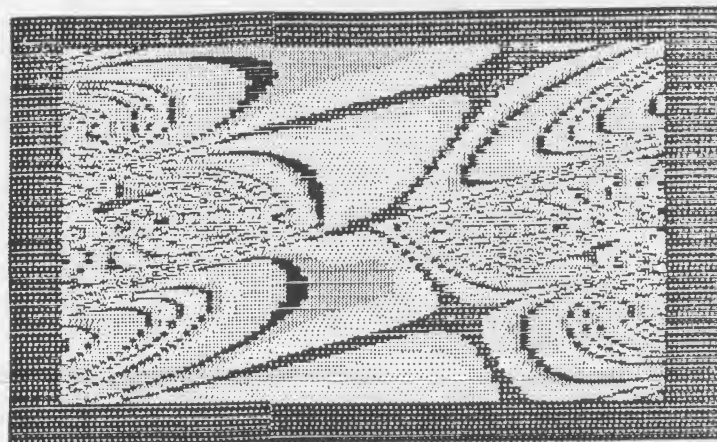
BIOFEEDBACK NOTE
BY RON MATROSS

As a psychologist and a new TAIG member, I am interested in developing ways of using ATARI computers as biofeedback instruments. Commercially available biofeedback mechanisms are either very expensive or primitive in their feedback displays. The graphics and sound capabilities of the ATARI make it potentially ideal for this application. Since I am a neophyte in both programming and electronics, I would like some help in developing the needed software and hardware. As a start, I would like to modify a program and GSR input device developed for the TRS80 color computer (as described in the Feb. 83 Computers and Electronics.) Anyone interested in this application should call me at 646-5755 evenings.

GRAPHICS
BY TRB

The picture shown below is an example of contour mapping a 3-D function ($Z = \text{fun}(x,y)$) using the ATARI graphics GTIA modes. If you look at the program listing you will see that every grid point on the screen is assigned a relative x and y coordinate value and then z is calculated for each point. By assigning a color to each point using a modulo function (i.e. you divide z by the number of colors and then use the remainder for the color at that point), you obtain a colorful hi-resolution plot of the 'cross-section' of the function. This program will take a long time to run, so plan on watching TV or something after you start it. Try changing the function, the offset values, and the graphics modes to get different effects.

```
5 GRAPHICS 10
6 SETCOLOR 4,7,14
10 FOR I=0 TO 79 STEP 1
20 FOR J=0 TO 191 STEP 1
25 TRAP 70
30 OI=40-I:OJ=95-J
40 Z=3*(OI*OI*OI-OJ*OJ)*SIN((OI+OJ)/20)/(OI*OI+OJ*OJ+.3)
50 Z=Z/16:COLOR (Z-INT(Z))*16
60 PLOT I,J
70 NEXT J
80 NEXT I
90 POKE 7523,1
100 GOTO 100
```



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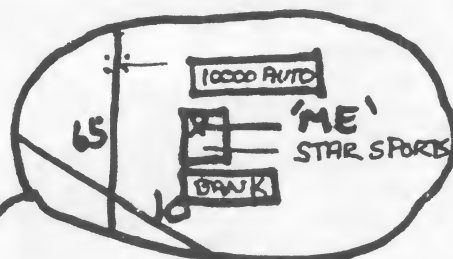
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* MODEMS *

Lately there has been much excitement about the forthcoming TAIG BBS. Prairie is proud to be handling the club's group purchases of modems. We are offering discounts on two kinds, the Hayes Smartmodem, and the Anchor Signalman modem for the ATARI. We are also discounting the 850 interface module, necessary for modems and printers to be connected to your computer. So, if you are thinking about buying a modem, we encourage you to sign up at the next meeting for the group discount rate, or call us for more information or to get your name on the list.

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Next TAIG Meeting:
Sunday, February 27, 1983
LITEPEN COURSE- 6:00 P.M.
TAIG - 7:00 P.M.

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